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ISOTECH LABORATORIES INC

ANALYSIS REPORT

Lab #:	235490	Job #:	17407
Sample Name/Number:	HW05		
Company:	TechLaw, Inc.		
Date Sampled:	1/26/2012		
Container:	Dissolved Gas Bottle		
Field/Site Name:	A3TA		
Location:			
Formation/Depth:			
Sampling Point:			
Date Received:	2/03/2012	Date Reported:	2/20/2012

Component	Chemical mol. %	$\delta^{13}C$ ‰	δD ‰	$\delta^{18}O$ ‰
Carbon Monoxide	nd			
Hydrogen Sulfide	na			
Helium	na			
Hydrogen	nd			
Argon	1.54			
Oxygen	4.82			
Nitrogen	84.97			
Carbon Dioxide	0.40			
Methane	8.24	-33.0	-162.9	
Ethane	0.0259			
Ethylene	nd			
Propane	nd			
Propylene	nd			
Iso-butane	nd			
N-butane	nd			
Iso-pentane	nd			
N-pentane	nd			
Hexanes +	nd			
Water			-63.2	-9.36

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 84 Specific gravity, calculated: 0.948

Remarks:
Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.68
*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.
** Methane carbon isotopes obtained online via GC-C-IRMS

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

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